NJ Department of Environmental Protection
Pesticide Control Program
Pesticide Evaluation and Monitoring

STRUCTURAL PESTICIDE USE IN NEW JERSEY: 2005 SURVEY

Introduction

The New Jersey Pesticide Control Program (NJPCP) began a series of pesticide use surveys in 1985. These surveys address pesticide use in the state of New Jersey for agriculture, golf courses, structural pest control, right-of-way, mosquito control, and lawn care. This report focuses on the 2005 structural pesticide use survey initiated by the NJPCP to identify what chemicals and how much of each were used for termite and other structural pest control in 2005.

All statewide pesticide use surveys are performed under the authority of the New Jersey Pesticide Control Code, N.J.A.C. 7:30-1 et.seq., requiring applicators to maintain pesticide records for two years and to submit use records to the state when requested. This regulative authority provides an accuracy and level of response that is difficult to duplicate in a voluntary, nationwide survey. In fact, these New Jersey surveys almost represent a pesticide usage census rather than a probabilistic survey.

The information collected from the NJPCP pesticide use surveys is used by agencies within the NJ Department of Environmental Protection along with other state agencies to aid in research, exposure management and monitoring efforts in areas such as ground water protection, farm worker protection and education, and residual pesticide sampling. The survey data are also entered into state and federal geographical information systems for mapping purposes.

Methods

The NJPCP's registration records were used to identify all 3504 licensed commercial applicators holding a category 7A (general and household pest control,) 7B (termite control) or 8A (General Public Health) on his or her license. Survey forms for the 2005 Structural Pesticide Use survey, along with instructional letters and return envelopes, were mailed at the end of the year. A survey form was sent to each applicator, but since two or more applicators can work on the same commercial business, the instructional letter requested that only one form be returned for each establishment to avoid duplication of response. A total of three mailings (one initial and two follow-ups to non-respondents) were sent and collected the first six months of 2006.

The survey requested information on each pesticide product used. This included trade name, percent active ingredient, EPA registration number, amount applied, and type of pest control. Survey information was entered into a database file. This information file was then merged with a second database that linked chemical names with trade names, and a subprogram converted total amounts of formulated product to total amounts of active ingredient (lbs ai).

Results

Once all three mailings were completed, 3047 out of 3504 (87%) surveys were received.

Table 1 lists the chemicals and their respective active ingredient amounts reported. Although sometimes used for structural treatment, fumigants were not included in this survey.

Table 2 selects out the highest use compounds. Imidacloprid was the highest use pesticide (in terms of pounds of active ingredient) in 2005 for structural pest control.

Table 3 shows pesticide use by type of pest controlled.

Table 4 shows pesticide use by county. Camden and Essex had the highest reported use.

Table 1. Pesticide amounts (lbs active ingredient) reported in the New Jersey 2005 Structural Pesticide Use Survey.

INSECTICIDES:	
Acephate	406
Allethrin	13
Amidinohydrazone	<1
Avermectin	6
Bendiocarb	17
Bifenthrin	2154
Boron	15253
Carbaryl	55
Chlorfenapyr	1028
Chlorpyrifos	2
Cyfluthrin	1648
Cyhalothrin	1058
Cypermethrin	4526
DDVP	54
Deltamethrin	819
Dichlorvos	92
Diflubenzuron	3
Dimethoate	<1
Esfenvalerate	150
Fenoxycarb	<1
Fipronil	18412
Hexaflumuron	3
Hydramethylnon	69
Hydroprene	443
Imidacloprid	33073
Linalool	10
Methomyl	10
Methoprene	6
Nithiazine	<1
Naphtalene	26
OBD	1759
Oxypurinol	0
PBO	3068
Permethrin	2675
Phenothrin	22
Phenylethyl propionate	17
Propetamphos	34
Propoxur	110
Pyrethrins	746
Pyriproxyfen	45
Silica gel	875
Sulfluramid	2
Tetramethrin	12
Tralomethrin	1
Xanthrin	<1
Total Insecticides:	**88703**

RODENTICIDES:	
Brodifacoum	1
Bromadiolone	5
Bromethalin	<1
Chlorophacinone	3
Difethialone	<1
Diphacinone	3
Vitamin D3	1
Warfarin	<1
Zinc Phosphide	126
Total Rodenticides:	**140**

MISCELLANEOUS	
4-Aminopyridine	4
Ammonium chloride	200
Anthraquinone	25
Denatonium saccharid	<1
Eugenol	11
Isopropanol	1500
Polybutene	77
Sulfur	32
Tricosene	1
Total Miscellaneous:	**1850**

TOTAL PESTICIDE USE: 90693

Table 2. Highest use compounds reported in the 2005 Structural Pesticide Use survey. Shown are compounds >= 5% of total use.

Compound	Lbs active ingredient	% of total use
Imidacloprid	33073	36 %
Fipronil	18412	20 %
Boron	15253	17 %
Cypermethrin	4526	5 %

Table 3. Totals by type of pest control as reported in the 2005 Structural Pesticide Use survey.

Formulation Type	Lbs active ingredient	% of total use
General Pest Control	28921	32 %
Termite Control	61470	68 %
Vertebrate Control	303	<1 %

Table 4. Pesticide use by county and type of pest control as reported in the 2005 Structural Pesticide Use survey.

COUNTY	General	Termite	Vertebrate	Totals	% by County
Atlantic	2676	879	19	3574	4 %
Bergen	4637	2682	21	7339	8 %
Burlington	963	2773	4	3740	4 %
Camden	772	12611	17	13399	15 %
Cape May	543	437	9	989	1 %
Cumberland	147	1213	17	1377	2 %
Essex	2067	8964	44	11075	12 %
Gloucester	420	7934	4	8357	9 %
Hudson	1994	4276	33	6303	7 %
Hunterdon	690	196	14	900	1 %
Mercer	436	333	4	773	1 %
Middlesex	5314	1651	15	6979	8 %
Monmouth	2016	2365	14	4396	5 %
Morris	1007	2120	3	3131	4 %
Ocean	1564	1700	3	3266	4 %
Passaic	1008	789	31	1827	2 %
Salem	46	2998	7	3051	3 %
Somerset	803	785	10	1598	2 %
Sussex	403	681	3	1087	1 %
Union	983	5468	29	6480	7 %
Warren	385	230	3	618	<1 %
No County Listed	48	386	0	434	<1 %